The Mountain Weather Journal

The Official Newsletter of the National Weather Service in Jackson, Kentucky

Volume 1 Issue 1

WHAT'S NEW AT NWS JACKSON???

By Shawn Harley

Greetings from your National Weather Service Forecast Office in Jackson, Kentucky. We hope you enjoy our inaugural newsletter and find it to be both interesting and informative. The twice-a-year newsletter will bring you a variety of weather, water and climate related information, and will keep you up to date on the latest developments at the Jackson National Weather Service Forecast Office.

The National Weather Service Forecast Office in Jackson, Kentucky is your office and we are here to serve you. We are responsible for issuing weather forecasts and warnings for 33 counties in eastern and south central Kentucky. You can receive forecast and warning information directly from the internet (check out www.crh.noaa.gov/jkl/) and the National Oceanic and Atmospheric Administration (NOAA) Weather Radio system.

Over the past couple of months, enhancements have been made to both our webpage and the NOAA weather radio system. The weather radio system was upgraded this past summer with a new, more human sounding automated computer voice. The new "male" voice is used to broadcast routine weather information, while a "female" voice is used to broadcast non-routine information like watches, warnings and advisories. Please listen to the broadcasts and let us know what you think. We are still making pronunciation adjustments to some of the names of places, so if you hear something that doesn't sound right give us a call at 606-666-8000 or send us an email.

The webpage has also been completely redesigned as part of a national plan to make all National Weather Service webpages easier to navigate and use. On the frontpage you will find an interactive point and click map that displays current watches and warnings for eastern and central Kentucky. By clicking on the map you can view text forecasts, various graphical forecasts, radar imagery, and other weather information for your county.

We would appreciate hearing from you. If you have any comments regarding the newsletter, NOAA Weather Radio, our webpage or any other service we provide please give us a call, send us an email via our webpage, or drop us a note. We are constantly striving to improve our products and services

TABLE OF CONTENTS

WINTER WEATHER SAFETY TIPS

by Phil Hysell

Winter will soon arrive in Eastern Kentucky, and with it comes snow, ice, cold temperatures, and high winds. A major winter storm can last for days. People can become trapped at home, without utilities or other services we take for granted every day. Heavy snowfall can trap motorists in their cars. Even something as simple as walking becomes hazardous during a winter storm. As a result, it's important to be prepared *BEFORE* winter weather strikes. Here's some things you can do to protect yourself from the hazards of winter weather:

At Home or Work: The primary concern are the potential loss of heat, power, telephone service, and a shortage of supplies if the storm lasts for days. So it's important to have available:

* Battery-powered NOAA Weather Radio and portable radio to receive emergency information. These may be your only links to the outside!
* A flashlight and extra batteries.
* Extra food and water. High energy foods, such as dried fruit or candy, and food requiring no cooking or refrigeration is best.
* Extra medicine and baby items.
* First-Aid supplies.
* Heating fuel.
* Emergency heating source, such as a non-electric space heater.
* Fire extinguisher and smoke detector.

In Cars and Trucks: Always plan your travel and check the latest weather reports to avoid the storm!

* Fully check and winterize your vehicle before the winter season begins.
* Carry a winter storm survival kit with: blankets; flashlight with batteries; first aid kit; high-calorie, non-perishable food; extra clothing; a small can and water-proof matches to melt snow for drinking water; shovel; windshield scraper; tool kit; tow rope; booster cables; water container; compass and road maps.
* Keep your gas tank near full to avoid ice in the tank and fuel lines, and to allow for extra travel time.
* Try not to travel alone.
* Let someone know your timetable and primary and alternate routes.

A little preparation now could save you and your family's lives when a winter storm strikes!

DID YOU KNOW???

by Phil Hysell

Did you know that the town of Benham, located in Harlan County, holds three snowfall records for the Commonwealth of Kentucky? In February of 1960, Benham received 30 inches of snow, which is the snowiest February on record in the state. The next month, March 1960, Benham recorded 46.5 inches of snow, establishing the mark for the snowiest March on record in Kentucky. Needless to say, with these extraordinary snowfall amounts Benham also holds the state record for the snowiest winter with a total of 107.2 inches of snow during the winter of 1959-1960!

THE CLIMATE CORNER

By Keith Berger

It has been a flip-flop year in the rain department.

Many Eastern Kentucky residents were elated with the wet spring we had. Many thought we would finally make some progress in erasing the rainfall deficit that had been growing over the previous 3 years. Then came summer.

Most of the rainfall surplus came in March, when the National Weather Service office received 7.96 inches of rain and the London-Corbin Airport received 6.39 inches. With little vegetation to soak it up, widespread flooding occurred. After April, the annual departure from normal continued to climb at the Jackson Weather Office. However, the London-Corbin Airport already began a descent; precursor of things to come.

As late as July 23rd, the Jackson Weather office boasted an annual surplus of 3.47 inches. Then the downward spiral began. For the first time since February, we ended below normal in the monthly tally. When August came to a close , we had a deficit of 2.41 inches; that brought the annual surplus down below an inch. At the same time, the London-Corbin Airport had been ending each month down from normal, a bit at a time.

Early in the summer, the jet steam allowed upper level disturbances to move across the Greak Lakes, into the Ohio Valley combining with moisture over the region to bring occasional rainfall. Toward the latter half of July, high pressure built over the Central United States, kept the region in a dry, northwesterly flow aloft with surface high pressure bringing a dry downslope flow off of the Appalachian Mountains. This combined with warm temperatures to start drying out the region and this condition continued to feed back on itself. As systems moved down into the Ohio Valley region, they had less moisture to work with.

With upper level ridging expanding over much of the southern United States in August, thunderstorms were suppressed much of the time, but daytime heating was sufficient for isolated to scattered thunderstorms over the higher elevations on several occasions, but more infrequent thunderstorms occurred elsewhere.

As of this writing, the annual rainfall is at a small surplus, thanks to the benefical rains in September brought by Isodore. The Jackson weather office is nearly one-half inch above normal, while London-Corbin Airport is about one-third of an inch above normal. This rainfall was much needed, especially considering the latest outlook from the Climate Prediction Center, which indicates below normal precipitation and near normal temperatures for this autumn.

Picture courtesy of Dusty Harbage. Dusk at the National Weather Service in Jackson

HYDROLOGY

by Mike McLane

Advanced Hydrologic Prediction Services – A Glimpse at the Future

In October of 2001, National Weather Service Central Region Forecast Offices began issuing a new suite of hydrologic products. Collectively referred to as the Advanced Hydrologic Prediction Services, or AHPS, these products are the Weather Service's solution to providing improved river and flood forecasting and water information. AHPS products have been designed to better meet the changing needs of our diverse customers, whether they are emergency managers, water supply officials, farmers, dam operators, or recreationists.

AHPS biggest advantage is its ability to provide more hydrologic information in a timely and user friendly manner, through the use of state-of-the-art science and technology. AHPS has expanded product accessibility, by providing immediate, internet-based easy to read graphical products and information. This is a giant improvement over previous textual-based products.

Hydrographs, which display current observed river stages and short-term forecasts are now available on-line for all of the Jackson Forecast Office's river forecast points. Probabilistic forecasts are additionally available for forecast points in the Big Sandy and Cumberland River Basins and provide an indication of the likelihood the river will reach a specific height at these locations within the next 30 days. With AHPS, emergency and water resource managers will now have the information they need to make more informed risk-based decisions to optimize the use of their resources.

Phase II of AHPS will soon be initiated at NWS Central Region Forecast Offices including JKL. Users will see several beneficial changes, including an enhanced WEB presentation with seamless navigation along river reaches and between Forecast Offices, and an area basemap that will color code forecast points according to their current observed or forecast stage.

You can help us improve our suite of hydrologic products! The National Weather Service Office of Climate Water and Weather Services (OCWWS) has chartered the Advanced Hydrologic Prediction Service (AHPS) Products and Information Team (APIT) to examine NWS hydrologic services, recommend a consistent core suite of graphical hydrologic products and information for implementation of AHPS at field offices across the country. The team has prepared a survey and is welcoming comments and suggestions on the types of hydrologic products and information the NWS should provide in a graphical format from NWS Forecast Offices, as well as our partners and customers. The survey can be found on the APIT web site at the following URL: http://www.srh.noaa.gov/lmrfc/ahpsteam/survey.php if you would like to participate.

Additional information on AHPS can be found on the Jackson Forecast Office WEB site at: http://www.crh.noaa.gov/jkl/ahps.

Harlan County Flood, March 2002. Picture courtesy of Mike Scott

WEATHER HISTORY

By Karen Oudeman

Weather, War & Pearl Harbor

Although the Hawaiian Islands can be like a tropical paradise on many days, there's a seasonal component to the weather. They tend to be warmer, windier and drier from about April through September. This is the time when the trade winds blow almost constantly from the east and northeast. From October through March, it's wetter. In fact, December and January are the two wettest and cloudiest months on Oahu, so it's unlikely that the Japanese planned their attack on Pearl Harbor based on climatology. Nevertheless, weather worked to their advantage.

Rather than head directly toward Hawaii, the Japanese Fleet had moved northeast from the main island of Honshu to the Kuril Islands (northeast of the island of Hokkaido). This route was chosen since the prevailing weather conditions in the northwest Pacific are generally cloudy in late autumn. The bad weather that greeted the Japanese Fleet lessened the chance that they would be detected by the U.S. and its allies. In late November, the fleet steamed from the Kuril Islands to their destination, north of Hawaii.

On the morning of December 7, 1941, Japanese airmen took off from the fleet's aircraft carriers and attacked Pearl Harbor, where the U.S. Pacific Fleet was moored (on the Hawaiian island of Oauh). It happened that this Sunday dawned sunny. The forecast was for partly cloudy skies, but visibility was good - the winds were from the north at 10 m.p.h.

From the Japanese point of view, a more favorable situation could not have been asked for. The Japanese aircraft carriers were concealed by thick clouds in the waters about 230 miles north of the Hawaiian Islands. Once in the air, the pilots weren't able to see the water because of the clouds and pre-dawn darkness. When the pilots neared the north coast of Oahu, the clouds broke, and the Japanese pilots had nearly a clear view of Pearl Harbor and the "sitting ducks" of the U.S. Pacific Fleet.

Though not directly weather-related, weather did play another role in the Pearl Harbor attack on December 7. On December 4, an intelligence office outside of Washington, D.C. was monitoring the news from Radio Tokyo, as he did everyday. What he heard seemed to be nothing more than a routine weather forecast, the kind that were heard everyday during their morning broadcasts - "east wind, rain." But the officer knew what these three words meant.

This phrase was a possible "execute" message that Japanese diplomats around the world had been alerted to begin listening for in mid November. They were told to monitor the regular news and weather broadcasts from Tokyo, just as they always did, but to pay especially careful attention to the phraseology employed to describe the weather. If they heard the words "east wind, rain, : it means war with the United States. The U.S. intelligence officer knew this and he immediately teletyped the message to Washington.

Expert from NASA GSFC Science Question of the Week: http://www.gsfc.nasa.gov/scienceques2001/20011207.html

Comments?

If you have any comments or suggestions about our newsletter, we would love to hear them! Send us an e-mail at: **phil.hysell@noaa.gov**

STORM OF THE SEASON

By Phil Hysell

On May 1, 2002, severe thunderstorms tracked southeast across parts of Pulaski, Rockcastle and Laurel Counties. These storms produced some of the largest hail ever witnessed by Kentucky natives - up to the size of softballs! The damage caused by these thunderstorms was historic. Shortly after 8 pm, a large swath of golfball to softball size hailstones pounded much of Pulaski and parts of Rockcastle counties. In Rockcastle county alone, over 400 homes were damaged along with over 900 vehicles. By 8:30 pm the storms had advanced into Laurel county where the path of destruction continued. Numerous homes and vehicles were damaged, especially in London. The estimated cost of damage from the hail was estimated to be nearly 40 *million* dollars in Pulaski, Rockcastle and Laurel Counties alone. Kentucky Farm Bureau Insurance stated this hailstorm was the most costly in it's nearly 60 year history. Below is a picture of hail near London, *hours* after it initially fell. This picture is courtesy of the Pulaski County Public Safety Office.

FIRE WEATHER

By Jon Pelton

Why Fire Weather???

Have you ever wondered where wildland firefighters and land management agencies get the weather information they need to effectively fight wildfires? The National Weather Service provides this information to both state and federal land management agencies. Here at the Jackson Weather Office, the Fire Weather program is very important since several wildfires occur each year and involve several thousand acres. In 2001, 1,471 fires were suppressed in the region involving around 150,000 acres. Forecasts issued by the National Weather Service help land management agencies protect lives and private property, as well as state and national natural resources.

The National Weather Service issues routine daily fire weather zone forecasts generalized over a large area. During the fire weather season, individual station forecasts are issued for seven points across the region. Both state (Kentucky Division of Forestry) and federal (United States Forest Service) land management officials plan fire prevention and suppression efforts and protect natural resources using this weather information. Knowledge of forecast conditions help land management agencies plan staffing levels and keep firefighters and the public safe.

What weather conditions are important in fighting fires and firefighter safety? Several are important and are all connected, but air temperature, wind direction, wind speed, sky condition, relative humidity and parameters dealing with smoke dispersion are important to firefighter and public safety. Relative humidity, wind speed, and

FIRE WEATHER (CONTINUED)

By Jon Pelton

wind direction are the most pertinent parameters to firefighter and public safety.

Low humidities and dry fuels can combine with strong and erratic winds and steep terrain to cause rapid to explosive fire growth when a fire is started. Land managment agencies use the weather information provided in National Weather Service forecasts to project this fire growth and plan containment strategies. The end result helps keep firefighters out of harm's way, protect lives and property.

NEWS FROM THE COOP

By Keith Berger

Have you ever heard the saying "...He just doesn't know when to quit"? Well that saying directly applies to Charlie Tucker, our Cooperative Observer in Booneville, Kentucky.

The Buckhorn Cooperative Observing station began in 1960, with Charlie taking over chief observing responsibility shortly thereafter. Recognizing the need for an observer in Owlsey County, Charlie came through once again and volunteered to host a station at his residence after he retired from Buckhorn in 1999. Charlie has faithfully reported in nearly every morning since. This puts Charlie in the same league with the original COOP Observer, Thomas Jefferson, who took a nearly unbroken record of weather records between 1776 and 1816; and for whom the National Weather Service's highest cooperative observing award is named. To take Charlie's compulsive work ethic one step further, helping out Owsley County schools has now become a full time job as he reports nearly everyday for duty there as well.

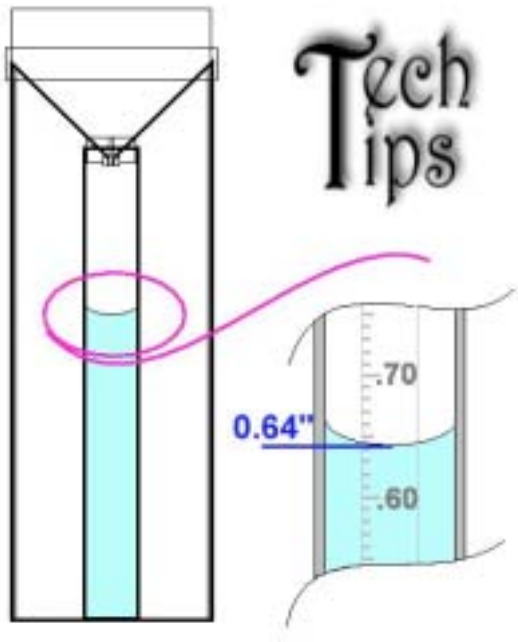
For this, Charlie has earned my coveted "Hardest Working Retired Man in East Kentucky" award. But also, the more prestigious and initial "Senior Weather Observer of Distinction" title for this period. Congratulations Charlie! I would say, "Keep up the good work", but that would be making note of the natural for you. Thanks for your dedication, we appreciate you!

The Jackson Coop Team - Dave, Keith, and Jeff.

Remember COOPs! Snow season is right around the corner! Let's brush up on those snow measuring procedures and review your guidelines. If you need a snow measuring guide, give us a call and we'll send one out. We are also finally in possession of snow measuring videos! We are going to try to get these out to each COOP before the snow flies. Don't ever hesitate to phone us with questions, we are at your disposal!

TECH TIPS

By Michael Lewis



When reading the raingage, be sure to take the reading from the bottom of the curve. This curve, called the miniscus, is caused by the surface tension of water being pulled up the side of the inner tube.

KID'S CORNER

By Michael Lewis

G A T M O S P H E R E Z N Q E A E D I A
L N U E P U A D Q D Z X O L P M C A I I
M I W O E L N I N O I S A E A N I A R T
S A L E B U E V I S T T A J O R C S W P
S F L O A M C I T Y H S A T E L L I T E
I A L E L U D H C U E K L T R H N N E Z
T G X O L C G A N I E Y E E E D C L M O
B R R Y O U R D E I T M H C B H S E P E
R A C F O D E S N S O T O I L R R S E A
E V O R N R S U B R A F S R E O E W R M
T I D O S N E G A E Y T F W H O C E A N
E T E S L N E B W L C L O U D S A I T E
M Y Q T H L O O G I E H G A A N T S U S
O S U R R I C W D L S S N U E I O R R T
M H A I L R K E M G M R A I T N R L E R
R W T C E O R T I S O T D E A Y N I A A
E F O W D P T W A T E R L A M R A O E T
H L R E V A P O R A T I O N I E D C J U
T E I Y R V E R C E O N L R L Y O I A S
B L I Z Z A R D S U A L R O C U E B C L
K S E L E R A I N B O W S W A F S O I A

AIR
ACID RAIN
ATMOSPHERE
BALLOONS
BAROMETER
BLIZZARDS
CIRRUS
CLOUDS
CLIMATE
CUMULUS
DROUGHT
EL NINO
EQUATOR
EVAPORATION
FLOODS
FOG
FROST
GRAVITY
HAIL
ICE
MIST
NOAA
OCEAN
PREDICT
RAIN
RAINBOW
SATELLITE
SHOWERS
SKY
SNOW
STRATUS
TEMPERATURE
THERMOMETER
THUNDER
TORNADOES
VAPOR
WATER
WEATHER
WIND